

Section VIII: Identification of Phencyclidine (PCP)

I. Introduction:

Phencyclidine or PCP is screened by a microcrystalline test and then analyzed by GC/FID and GC/MS. The samples are extracted by a simple solvent extraction procedure. However, extraction by The ANOR Procedure (Section X) or extraction for non-volatile organic poisons (Section IX) can also be used.

II. Reagents:

- A.) Petroleum ether or 9:1 Methylene chloride/Isopropanol
- B.) Gold Chloride (AuCl₄)
- C.) Methanol (GC solvent rinse)

III. Equipment:

- A.) Analytical balance
- B.) Weigh paper
- C.) Microscope and slides
- D.) 2 mL autosampler vials with Teflon caps
- E.) GC/FID: HP 6890 or 7890A series
- F.) GC/MS: HP 6890/5973 or HP 7890A/5975C series

IV. Procedure:

A.) Microcrystalline Test:

1. On a microscope slide add a small amount of sample.
2. Add one drop of AuCl₄ reagent to sample.
3. Observe under microscope at 100-125X. Crystallization should occur within a few minutes if phencyclidine is present.

B.) Chromatography by GC/FID and GC/MS

1. Add about 5 mg of sample to a labeled 2 mL autosampler vial.
2. Add 1-2 mL of Ethanol or 9:1 Methylene Chloride/Isopropanol to the vial and cap.
3. Place vial(s) on the GC/FID autosampler and run with the following sequence: Standard, Blank, Samples.
4. GC/FID conditions are as follows:
 - Method: EXP.M
 - Oven:
 - Initial Temp: 245°C
 - Initial Time: 0.00 min.

Rate: 10°/min.
Final Temp: 290°C
Run Time: 10 min.
Max. Temp: 325°C
Equilibration Time: 0.5 min.

Inlet:

Mode: split (35:1)
Initial Temp: 250°C
Pressure: 24.99 psi
Gas Type: Helium

Column:

Capillary: HP-1 30m x 320um
Initial Flow: 3.3 mL/min.

Detector:

Temp: 300°C
Hydrogen Flow: 30.0 mL/min.
Air Flow: 400 mL/min.
Makeup Gas: Helium

1. Obtain chromatographs. If sample contains PCP the instrument will detect a total ion peak with a retention time characteristic of that compound and will generate a report with accompanying chromatograph.
2. Check concentration to determine if dilutions are needed or if the injection volume needs to be increased for subsequent GC/MS run. Also observe any erroneous data that indicates that the sample may have to be reinjected.
5. Place same sequence on the GC/MS autosampler and run.
6. GC/MS conditions are as follows:

Method: EXP.M

Oven:

Initial Temp: 230°C
Initial Time: 0.00 min.
Max. Temp: 325°C
Equilibration Time: 0.50 min.
Rate: 10°/min.
Final Temp: 280°C
Run Time: 10 min.

Inlet:

Mode: split (50:1)
Initial Temp: 250°C
Pressure: 31.65 psi
Gas Type: Helium

Column:

Capillary: HP-1MS 25m x 200um x 0.33um
Max. Temp: 300°C
Initial Flow: 1.0 mL/min.

3. If PCP is present in the sample, the instrument will detect a total ion peak at its characteristic retention time and will generate a report along with accompanying chromatograph and spectra. The spectra will contain the identity of the peak and its ion abundance.

V. Results:

- A.) For the microcrystalline test, record in logbook as positive, or negative with AuCl_4 .
- B.) Record results of the GC/MS in logbook. Then transfer the results to appropriate evidence cards that came with the actual samples. Be sure to include date of analysis, results, the number of tests performed per sample, and initials.
- C.) All reports generated from the instruments should be filed so that they may be accessed at a later date, if necessary.